

## ABSTRACT OF THE DISCLOSURE

A method for controlling a DC-DC converter that achieves high conversion efficiency without using a linear  
5 regulator circuit. The DC-DC converter includes a main switching transistor, a first capacitor, a second capacitor, and a diode that is series-connected to the first capacitor. The series-connected diode and the first capacitor are connected between the source and drain of the main switching  
10 transistor. The second capacitor is connected in parallel to the first capacitor or disconnected from the first capacitor in synchronism with activation and inactivation of the main switching transistor to generate gate voltage for driving the main switching transistor.